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ABSTRACT

This manual has been prepared as a means of introducing students to online computer searching using DIATOM, a simulation of the ERIC file as it is searchable on the DIALOG Retrieval Service. The objectives and contents of the DIATOM system are described in the preface to the manual. The overall process of bibliographic searching and the procedures for signing onto the DIATOM system are then outlined. The basic operational commands for selecting and combining sets during searches and for typing search results are presented, and searching in specific fields within the basic index of the DIATOM file, proximity searching, free text operators, and truncation are discussed. Techniques for searching fields not included in the basic index of the DIATOM file, for limiting search results by such parameters as publication type, and for examining the DIATOM system dictionary during a search are also outlined. In addition, the "stacking" of commands is reviewed. Exercises illustrating the principles covered accompany each section of the manual, and a set of culminating exercises which test the range of commands covered by the manual is included. Flowcharts illustrating search processes, a list summarizing the commands discussed, appendices on using Telenet and Tymnet and on the "limit" command in DIALOG, and an index accompany the text. (Author/JL)

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INTRODUCTION TO COMPUTER SEARCHING
USING
DIATOM - FILE 1

Third Edition

by

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D. Joan Joyce
Claire R. Heller

School of Information Studies
Syracuse University

1982

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PREFACE

This manual has been prepared as a means of introducing students to online computer searching using DIATOM, a simulation of DIALOG Information Retrieval Service. It assumes no previous experience with computer searching, and is designed to develop familiarity with searching procedures and the rationale underlying them. DIATOM, written in Sail for use on the DECSystem-10 Computer, was designed by Bob Waldstein, School of Information Studies, Syracuse University, to aid the beginning online searcher. Its objectives are:

1. to provide a practice setting for drill in the standard search functions and the DIALOG command language; and
2. to provide access to a typical online file for practice in search skills.

The file consists of 8,573 citations from the Educational Resources Information Center (ERIC) database. All of these citations are from Resources in Education (RIE) and Current Index to Journals in Education (CIJE) for 1980 from four clearinghouses:

Information Resources (IR)
Educational Management (EA)
Tests, Measurement, and Evaluation (TM)
Teacher Education (SP)

The manual is not designed to develop any degree of expertise in terms of search strategy. This further stage of sophistication is addressed in another publication: ONTAP: Online Training and Practice Manual for ERIC Database Searchers. Second Edition by Karen Markey and Pauline Cochrane.* For additional information about DIALOG commands, the user is referred to the DIALOG LAB WORKBOOK, Second Edition.

*Available from Information Resources Publications, 130 Huntington Hall, Syracuse University, Syracuse, New York 13210.

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Cover design adapted from Karen Markey, ONTAP: Online Training and Practice Manual for ERIC Database Searchers.

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NOTE

All references to specific telephone and computer account numbers, and passwords have been omitted from the text. Blanks have been included where these need to be entered. The following should be obtained from the instructor and entered on the pages noted:

If using DIATOM:

Phone number	_ - _ _ _ _	pp. 2, 6, 8
DEC-10 Account Number	_ _ _ _, _ _	pp. 2, 9
DEC-10 Password	_ _ _ _	pp. 2, 9
DIATOM Password	_ _ _ _ _ _ _ _	pp. 2, 11

If using DIALOG:

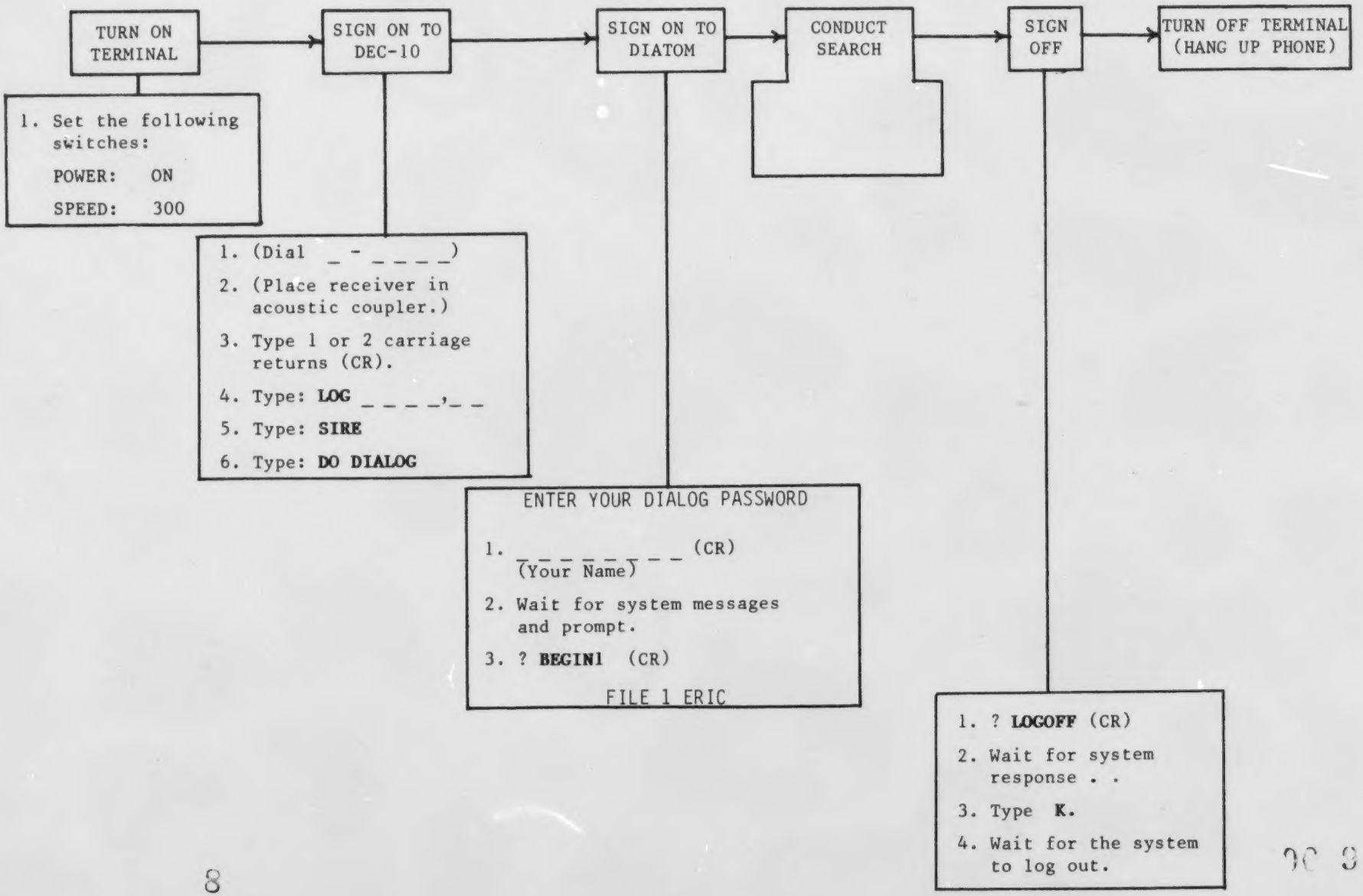
TELENET phone number	_ _ _ - _ _ _ _	pp. 69, 70
TELENET Terminal ID	_ _ _ _	p. 70
TYMNET phone number	_ _ _ - _ _ _ _	p. 73
TYMNET Terminal ID	__	p. 73
TYMNET Password	_ _ _ _ _ _	p. 73

Substitute DIALOG Password _ _ _ _ _ _ _ _
for DIATOM Password on pp. 2, 9

PART 1

The Overall Process of Searching

PROCEDURES FOR USING DIATOM


TURN ON TERMINAL
SIGN ON TO DEC-10
SIGN ON TO DIATOM
CONDUCT SEARCH
SIGN OFF
TURN OFF TERMINAL (HANG UP PHONE)
1. Set the following switches:
POWER: ON
SPEED: 300
1. (Dial _ - _ _ _ _)
2. (Place receiver in acoustic coupler.)
3. Type 1 or 2 carriage returns (CR).
4. Type: LOG _ _ _ _,_ _
5. Type: SIRE
6. Type: DO DIALOG
ENTER YOUR DIALOG PASSWORD
1. _ _ _ _ _ _ _ _ _ (CR)
(Your Name)
2. Wait for system messages and prompt.
3. ? BEGIN1 (CR)
1. ? LOGOFF (CR)
2. Wait for system response . .
3. Type K.
4. Wait for the system to log out.

FILE 1 ERIC

PART 1

Background

The bibliographic information, indexing, and abstracts/annotations which appear in RIE and CIJE are stored on computer tape making it possible for the ERIC database to be searched by computer. While the tapes may be purchased by anyone, it tends to be "data base vendors" such as Bibliographic Retrieval Services, Lockheed Retrieval Services, and Systems Development Corporation who buy them. The vendors "load" the tapes on their own computers along with computer programs which make it possible to search the data base. While the information on the ERIC tapes is the same to all vendors, each vendor has its own programs for searching, and therefore what the user may search and how s/he may search it differ from vendor to vendor. This training module will use a simulation of a system called DIALOG which is operated by DIALOG Information Retrieval Service.

It is worth knowing something about the physical arrangements involved in using DIALOG as an aid to understanding the reason for certain procedures. In order to search DIALOG, two primary things are needed:

1. The DIALOG computer in Palo Alto, CA.
2. A computer terminal located with the user.

Figure 1.1A: The "essentials" for searching.

The computer and the terminal, of course, have to be connected. One obvious method would be to use a long distance telephone call--but this would be very expensive. Therefore, an alternative method is used which employs the services of a company that specializes in transmitting data. There are several such data-transmission services, but two of the most common are called TELENET and TYMNET.

Figure 1.1B: Enter TELENET/TYMNET.

So, TELENET and TYMNET provide the connection to DIALOG. That leaves the need to connect the user's computer terminal to TELENET or TYMNET and this is accomplished through a local telephone call.

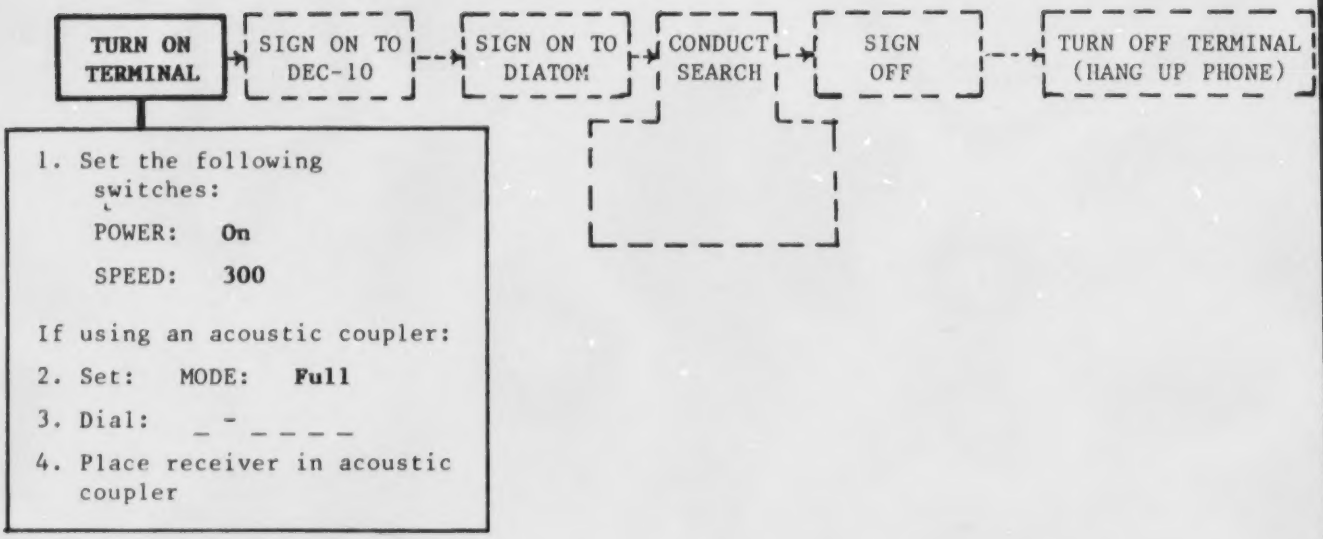
Figure 1.1C: Getting it all together.

Therefore, getting ready to search DIALOG is really a two-step process:

A. Connect to TELENET or TYMNET.
B. Sign on to DIALOG.

This training package makes use of a simul-or called **DIATOM** which is based on DIALOG and available on the DEC-10 computer at Syracuse University. In order to maintain a parallel between the procedures actually used in searching DIALOG and those involved in using DIATOM, procedures for signing on to the DEC-10 are substituted in place of those used for connecting to TELENET or TYMNET. The actual procedures you would use with TELENET and TYMNET are included in Appendix A.

The material which follows describes in detail the procedures for signing on to the DEC-10, signing on to DIATOM, conducting a search, and signing off. (The material pertaining to actually conducting a search begins in Part 2.)


TURN ON TERMINAL
SIGN ON TO DEC-10
SIGN ON TO DIATOM
CONDUCT SEARCH
SIGN OFF
TURN OFF TERMINAL (HANG UP PHONE)
1. Set the following switches:
POWER: On
SPEED: 300
If using an acoustic coupler:
2. Set: MODE: Full
3. Dial: _ - _ _ _ _
4. Place receiver in acoustic coupler

Step 1: Turn on the Terminal

Two switches should be observed for turning on the computer terminal in preparation for signing on to the DEC-10:

POWER: **on**

SPEED: **30** (or 300)

In addition, on some terminals you will find a third switch:

MODE: **full**

The function of the POWER switch is obvious. It turns on the terminal.

The SPEED switch sets the terminal so that it can handle 30 characters per second.

The MODE switch has three possible positions. LOCAL converts the terminal to a "typewriter" and prevents it from sending and receiving. HALF is short for HALF DUPLEX. This produces an "echo" which is necessary on some systems in order to see what is being typed. When used with the DEC-10 this causes EEVVEERRYY LLEETTEERR TTOO BBEE PPRRIINNTTEEDD TTWWIICCEE. Ergo, use FULL. (On some terminals this switch is called "DUPLEX.")

Other Points About the Terminal

By and large, the computer terminal looks and behaves like a typewriter. There are certain differences that are worth noting.

1. Many terminals print upper case letters only.

2. The **RETURN** key serves two functions:

   a. It "returns" the typing element to begin the next line.

   b. It "sends" the information from the line just finished to the computer.

3. One additional key should be noted:

   CONTROL (CTRL), located on the left side of the keyboard. When held down along with a "regular" key, it assigns to the latter some function other than printing a letter. The only use of CONTROL which is necessary with DIALOG is for backspacing on terminals which do not have a backspace key.

4. On terminals which print only upper case letters, the SHIFT key is required only to produce special characters such as ? and ! .

5. **Ø** and **O**, and **l** and **L** are not interchangeable.

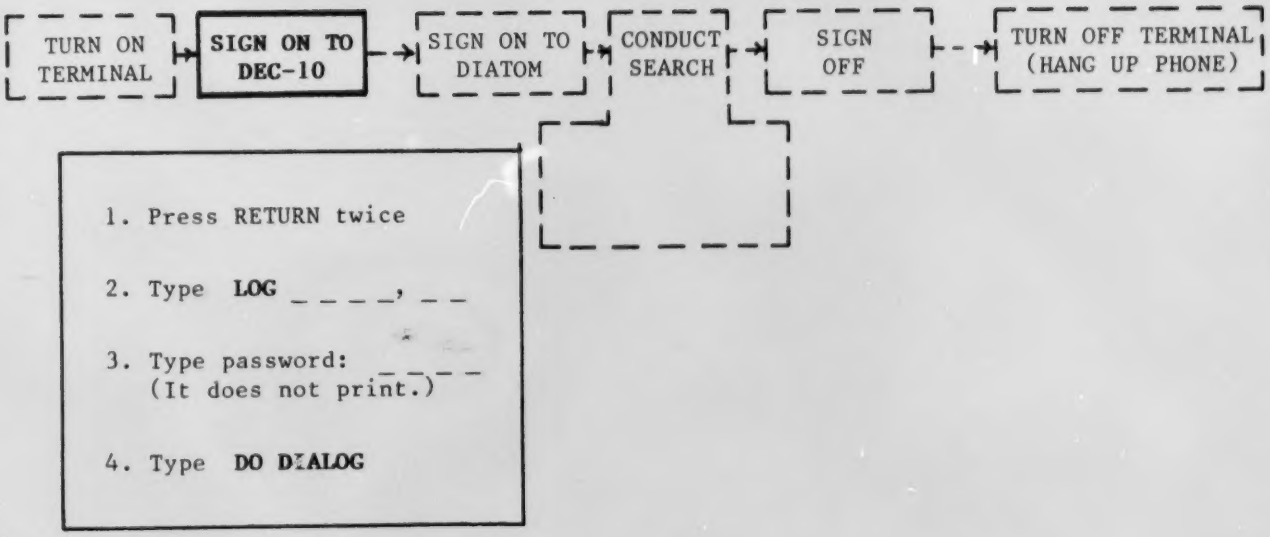
If You are Using an Acoustic Coupler

Not all terminals are "hard-wired" to the computer--some must be connected using a telephone and an acoustic coupler. The acoustic coupler is either a part of the terminal or a device connected to the terminal which is designed to hold the telephone handset. To use an acoustic coupler, do the following:

1. Dial _ - _ _ _ _ .

   After the phone rings, you should hear a high-pitched "tone" on the line. That's the computer. (If someone picks up the receiver and says "Hello," apologize for dialing a wrong number, hang up, and try again.)

2. Insert the telephone handset into the acoustic coupler. Be sure the "cord end" of the handset points in the direction indicated in the instructions for the terminal.


TURN ON TERMINAL
SIGN ON TO DEC-10
SIGN ON TO DIATOM
CONDUCT SEARCH
SIGN OFF
TURN OFF TERMINAL (HANG UP PHONE)
1. Press RETURN twice
2. Type LOG _ _ _ _, _ _
3. Type password: _ _ _ _ _
(It does not print.)
4. Type DO DIALOG

Step 2: Sign on to DEC System 10

Having turned on the terminal, the next step is to sign on to the DEC-10 computer.

1. Press **RETURN** once or twice.

   This indicates to the computer that you wish to use it. The computer will respond by printing out a line, and then a /. The / is called a "prompt," and is the computer's way of telling you that it is ready for you to enter some more information. (Other prompts you may get are . or ? or # .)

2. After the / type **LOG** _ _ _ _, _ _.

   This tells the computer that you want to use that particular account number. The computer will then ask you for a password to prove that you have a right to use that account.

3. After the PASSWORD: type _ _ _ _ .

   This proves that you are who you say you are. (To protect passwords, the DEC-10 does not allow them to print on the terminal.)At this point the computer may print out a bunch of messages for you and then print a . . Or, it may simply print a period. The period is the prompt issued by the DEC-10 operating system.

4. After the . type **DO DIALOG.**

   This tells the DEC-10 that you want to use DIATOM. Incidentally, the command really is DO DIALOG.

   As the DEC-10 starts the simulator, it will print

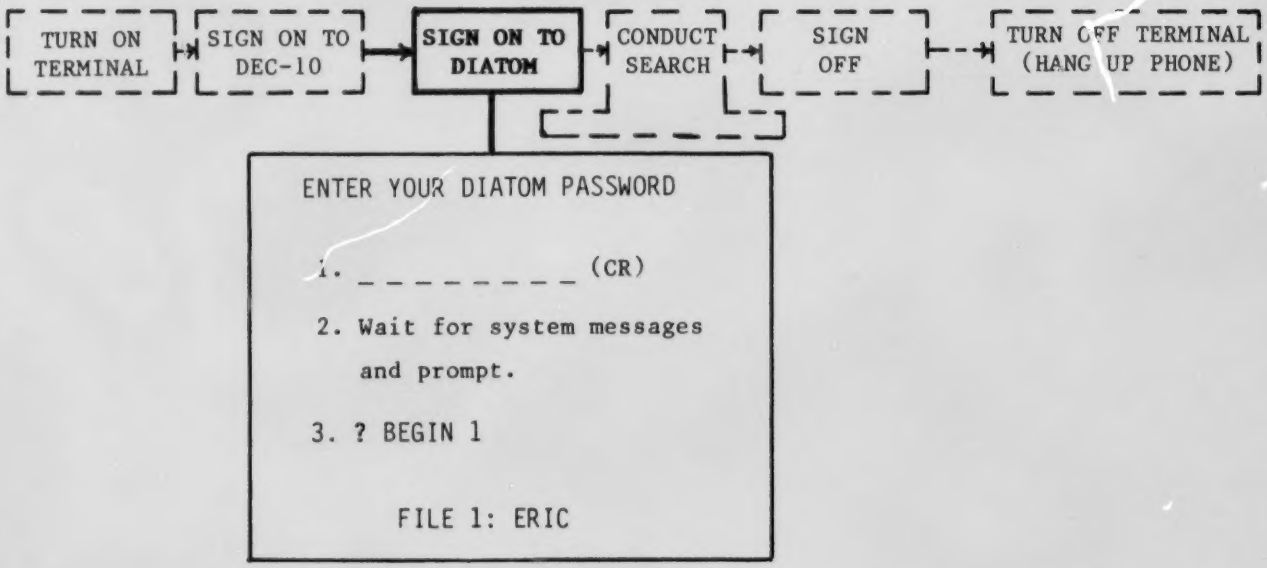
   .RUN DIALOG

```
C108) SU TIMESHARING 08.08.11 FRI 12/29/81 V1M77X (LS120)
/LOG XXXX,11
LOG XXXX,11
JOB 19 Syracuse University 603A TTY12
Password:

.DO DIALOG

.RUN DSKI:DIALOG  2716,11
```

FIGURE 1.2: Sample printout showing sign-on to DEC-10.


TURN ON TERMINAL
SIGN ON TO DEC-10
SIGN ON TO DIATOM
CONDUCT SEARCH
SIGN OFF
TURN OFF TERMINAL (HANG UP PHONE)
ENTER YOUR DIATOM PASSWORD
1. _ _ _ _ _ _ _ _ (CR)
2. Wait for system messages and prompt.
3. ? BEGIN 1
FILE 1: ERIC

Step 3: Sign on to DIATOM

As soon as the DEC-10 has started DIATOM, DIATOM will ask who the user is. It will print

ENTER YOUR DIATOM PASSWORD
■■■■■■■■

and return the typing element to the beginning of the blacked-out boxes. (In real life, the password you type in at this point will identify to whom the bill is to be mailed.)

1. Over the boxes, type the user password. The password you will use on DIATOM is eight letters of your name.

2. Once DIATOM has determined that the user has an account, the system will print any messages it wishes, and then print ? . DIATOM, like DIALOG, uses ? as the prompt for the user to type input.

3. In response to the first ? type:

BEGIN 1

DIATOM will print messages directly related to FILE 1 , and then print ? . The user is now ready to conduct a search using the DIATOM file.

Actually, the DIATOM simulator will automatically move you into FILE 1 whether or not you type BEGIN1. However, it is a good idea to type **BEGIN n** (where n = file number) so that you will not forget to do this when you wish to sign on to databases other than ERIC. There are other files on DIATOM, and, of course, when you actually use DIALOG there are many files to choose from.

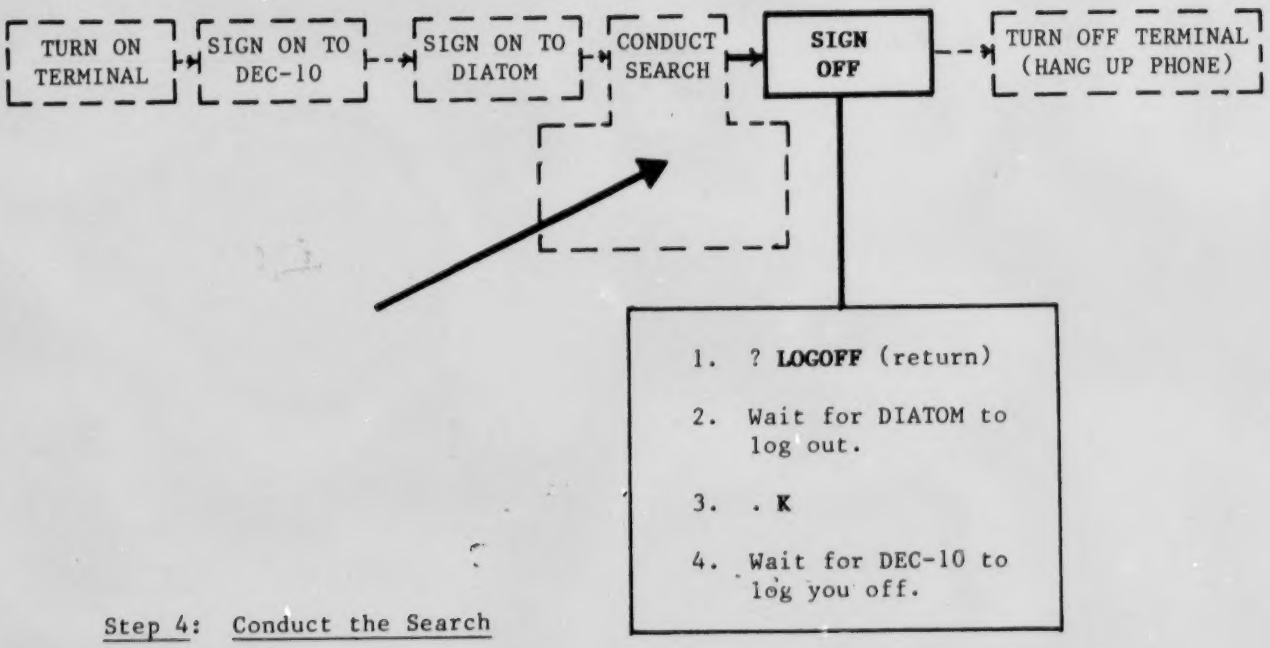
For a sample printout of the process of signing on to DIATOM, see Figure 1.3.

```
ENTER YOUR DIATOM PASSWORD
********
                    LOGON FILE1 21NOV80 8:24:23

?BEGIN1
                    21NOV81 08:24:33 USERBRUC

   $ .10 .006 HRS FILE1*
FILE1*:ERIC 1980
                SET  ITEMS DESCRIPTION (+=OR;*=AND;-=NOT)
                ---  ----- ------------------------------
?
```

FIGURE 1.3: Sample printout of signing on to DIATOM and File 1.


TURN ON TERMINAL
SIGN ON TO DEC-10
SIGN ON TO DIATOM
CONDUCT SEARCH
SIGN OFF
TURN OFF TERMINAL (HANG UP PHONE)
1. ? LOGOFF (return)
2. Wait for DIATOM to log out.
3. . K
4. Wait for DEC-10 to log you off.

Step 4: Conduct the Search

This requires a series of SELECT, COMBINE, LIMIT, EXPAND, and TYPE commands which will be addressed in Part 2. Suffice it to say for the moment that between each step of the search, DIATOM will print a ? requesting further input by the user.

Step 5: Sign Off

1. To sign off DIATOM, respond to any ? by typing

   LOGOFF

2. DIATOM will print information logging out the user from the simulator.

3. To sign off the DEC-10, respond to any . by typing

   K

4. Wait for the computer to log you off the system.

```
?LOGOFF
                    21NOV81 08:12:21 USERBRUC
   $ .72 .048 HRS FILE1*
LOGOFF 8:12:21

End of SAIL execution

.K Job 19 User TESSIER J ,[redacted],11.
Logged-off TTY12 at  8:13:03 on 21-Nov-80
Runtime: 0:00:00, KCS:  28, Connect time: 0:03:52
Disk Reads:  450, Writes: 32, Blocks saved: 1050

Charge: $0.16 = $0.05(R) + $0.02(K) + $0.09(C)
Year-To-Date Account Usage: 58%
```

Figure 1.4: Sample Printout of LOGOFF

Step 6: Turn Off the Terminal and Hang Up the Phone.

If using an acoustic coupler, be sure to hang up the phone.

EXERCISE 1

Try out the procedures for signing on to DEC-10, signing on to DIATOM, accessing File 1, and then logging off. Do not attempt to conduct a search.

Errors will occasionally cause you to exit from DIATOM into the DEC-10 operating system. If you are not certain whether or not you are still connected to DIATOM, press **RETURN**, and see what prompt is printed.

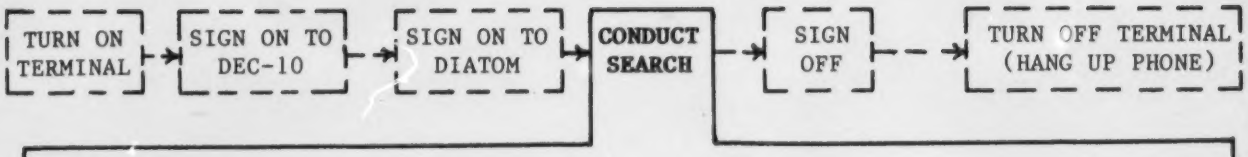
? = You are in DIATOM simulation.
Continue.

. = You are in DEC-10 operating system.

Use: Step 2 for reentry to DIATOM
or
Step 4 to get off computer.

PART 2

SELECT, **COMBINE**, and **TYPE** Commands



1. Create sets for one-word terms by using **SELECT** or **S**.

2. Create sets for multi-word terms by using **(W)** between terms.

3. Create new sets from old sets by using **COMBINE** or **C** with **AND, OR, NOT.**

4. Stack command strings by using ; .

5. Type sets of interest by using **TYPE** or **T** in appropriate format:

e.g., T5/8/1-7

- Set number 5
- Format number:
  - 1 - Accession number only
  - 2 - Full record except abstract
  - 3 - Bibliographic citation
  - 4 - Title and abstract
  - 5 - Full record
  - 6 - Title
  - 7 - Bibliographic citation and abstract
  - 8 - Title and indexing
- First and last citations to be printed.

PART 2

Part 1 introduced the computer terminal and the procedures required to sign on to the DEC-10, sign on to DIATOM and select the appropriate database, and sign off. Parts 2, 3, 4, and 5 will deal with using the computer to search for information in the database.

Conducting a search begins after the system has logged the user on to the database of his choice and issued the ? as a prompt. There are a number of commands which are used in computer searching, and Part 2 will present three of them: **SELECT, COMBINE,** and **TYPE.** These are used to initiate three basic activities which are required in computer searching.

1. **SELECT:** locating particular information in the database
2. **COMBINE:** manipulating information found
3. **TYPE:** type information desired

In the case of ERIC, information sought consists of a particular word or words, information manipulated consists of the accession numbers of the records in which the word or words are found, and information typed consists of the accession numbers and selected portions of the records.

> Accession number. A unique number assigned to each document or journal article and used to locate the corresponding record. In DIATOM, all accession numbers begin with **DN.**

In the material that follows we will use as an example a search to find material on the use of communications satellites in Alaska or Montana.

1. Searching the Files: **SELECT** or **S**

The command which is used to request the computer to look for the occurrence of a particular word is **SELECT** or **S.** The short form **S** is usually used in order to save time (and consequently save money). For example, the computer can be asked to scan all the records in the database for the occurrence of the word "Alaska":

SELECT ALASKA

or

S ALASKA

In response to this command, the computer does three things:

(a) It scans its files, and records in a separate place the accession numbers of those that contain the word "Alaska."

FIGURE 2.1: Contents of Set 1

(b) It assigns to this collection of accession numbers an identification or "set" number. (The collection of numbers is called a "set.") Since this is the first set formed, it will be assigned Set number 1.

1 ALASKA

(c) It counts the accession numbers in the set and prints the number along with the set number.

1 14 ALASKA

(Note that the computer does not automatically print out the accession numbers in a set. It can be asked to type them. The numbers printed with Step (a) are included for illustrative purposes only.)

After the computer has printed the set number and number of accession numbers in the set, it prints another ? to invite the user to enter another command. This time we are interested in all the records which contain the word "Montana." So we type:

? S MONTANA

and the computer searches for all records in which the word "Montana" appears. It stores the accession numbers in Set 2, counts them, and prints for the user's information:

2 8 MONTANA

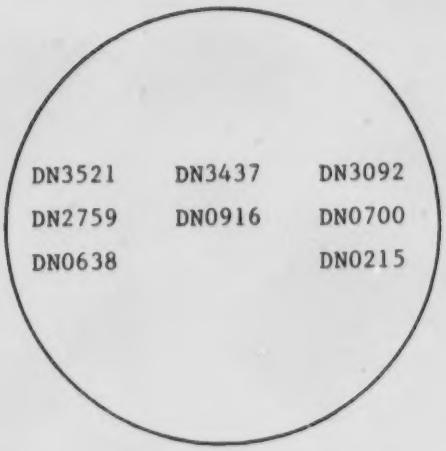


Figure 2.2. Contents of Set 2 by Accession Number

DIATOM, like DIALOG, is normally insensitive to spaces between commands and terms, so the commands could also have been entered **SALASKA** and **SMONTANA**. However, if a single letter command together with the first part of the term that follows spells out the full form of a command, a space must be left after the command.

SELECTRIC will return the following response:

1 0 RIC

Therefore, enter:

S ELECTRIC

2. Searching for Multi-Word Expressions: **(W)**

Searching for single words could be rather restrictive, so DIALOG has provisions for searching multi-word expressions by linking them together in a SELECT command with **(W)**. For example, the present search could be continued by looking for all the records containing the expression "communications satellites." In this case, the SELECT command would be entered as:

? **S** COMMUNICATIONS **(W)** SATELLITES

and is read as SELECT COMMUNICATIONS WITH SATELLITES. The words of interest must be adjacent to each other and appear in the order entered. The computer will look for only those records in which "communications" and "satellites" are adjacent, with "communications" preceding "satellites." It stores the accession numbers in another set, and responds to the user:

3 19 COMMUNICATIONS (W) SATELLITES

3. Manipulating Sets Using **COMBINE** or **C**

The sets which searchers create using the SELECT command with single or multiple word terms are usually of secondary importance to them. What they really want is a set that combines information from all the sets which is relevant to their topic of interest. For example, we are not so much interested in documents about Alaska, about Montana, and about communications satellites as we are interested in those about communications satellites in Alaska or Montana. In other words, we want documents which combine information contained in the previous sets.

Combining sets is done through the use of the **COMBINE** or **C** command paired with a "logical operator"--**AND**, **OR**, or **NOT**.

C 1 AND 2 Create a new set made up of accession numbers that are common to both Set 1 and Set 2.

C 1 OR 2 Create a new set merging Set 1 and Set 2, but discard any duplicates.

C 1 NOT 2 Create a new set made up of Set 1 minus any accession numbers that also appear in Set 2.

The new sets created by the COMBINE command will of course be stored under a new set number, and the computer will print out for the user the set number and the number of numbers stored. For example, we are interested in both "Alaska" in Set 1 and "Montana" in Set 2. Therefore, we could enter:

C 1 OR 2

and the computer would respond:

4 16 1 OR 2

The first part of the contents of Set 4 is printed below. If you compare this with the contents of Sets 1 and 2 printed above, you will notice that all of the numbers in both sets appear in Set 4, but no number appears more than once.

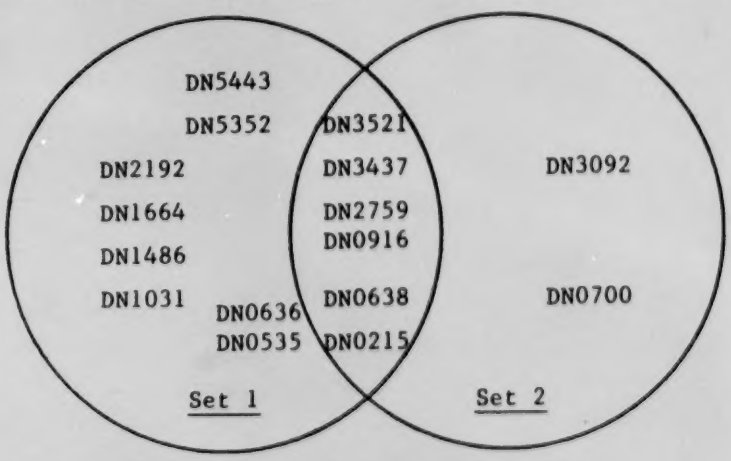


FIGURE 2.4: Contents of Set 4

The creation of Set 4 brings us closer to what we want in that we now have in one set the accession numbers of all records which mention either Alaska or Montana. However, we are not interested in everything in the data base relative to Alaska and Montana--only those which deal with communications satellites in these regions. What we want, then, is a set which is made up of those records that mention "Alaska" or "Montana" and also mention "communications satellites". We have already created a set (Set 3) made up of the accession numbers of the records which mention communications satellites. Any numbers which appear in both Set 4 and Set 3 should therefore identify records which mention at least one of Montana or Alaska, and communications satellites. In order to create this new set, we enter:

C 4 AND 3

and the computer responds:

5 2 4 AND 3

There are two documents in the set in which we are really interested.

If we had wanted only documents about Alaska, and had suspected that any which mentioned both Alaska and Montana would be irrelevant, we could have entered:

C 1 NOT 2

and this would have created a new set made up of the accession numbers of records that mention Alaska minus the accession numbers of any records which mention Montana in addition to Alaska.

More than two sets may be combined at a time.

C 6 **AND** 7 **AND** 4 **AND** 9

If the sets to be combined are in a sequence, the command may be entered noting only the first and last numbers in the sequence followed by a / and the logical operator to be used.

C 11-15/**AND**
C 32-38/**OR**

4. Stacking Command Strings By Using ;

It is also possible to issue more than one command at a time in response to a prompt. In such cases the commands are separated from each other by a ; . For example:

S ALASKA; S MONTANA; C 1 OR 2

and the computer would respond:

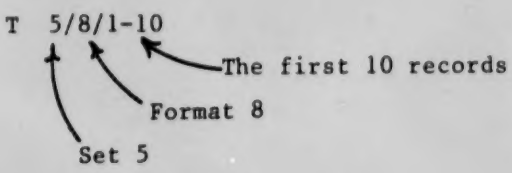
1	14	ALASKA
2	8	MONTANA
3	16	1 OR 2

The only thing which needs to be remembered is that the COMBINE command requires that set numbers be included. Therefore, the user must anticipate the set numbers which will be assigned for any SELECT commands included among the stacked commands and include them with COMBINE.

5. Typing Sets of Interest: **TYPE** or **T**

Selected portions of records associated with the accession numbers in a set may be typed out by the computer in response to a **TYPE** or **T** command. Three bits of information must be entered with the **TYPE** command:

a. The number of the set to be typed.
b. The format, i.e., which portions of the records are to be typed.
c. What portion of the set is to be typed.



Note that the pieces of information are separated from each other by / .

The format pertains to what portions of the records are to be typed. The accession number is typed for every citation, even if not specified. DIALOG has prearranged what combinations may be requested and has identified them by format numbers.

1 - Accession number only
2 - Full record except abstract
3 - Bibliographic citation
4 - Title and abstract
5 - Full record
6 - Title
7 - Bibliographic citation and abstract
8 - Title and indexing

75/8/1-10

In this example the title and indexing were requested.

> DIATOM bibliographic citations include such information as author, title, and source.
>
> Index terms are keywords used to describe concepts included in a document or journal article. In ERIC they are of two types: Descriptors are selected from the controlled vocabulary which appears in the Thesaurus of ERIC Descriptors. Identifiers are terms for specific entities such as a project, legislation, person, place, organization, acronym, or piece of equipment, and are used to provide additional specialized indexing depth.

T 5/8/1-10

In this example, the first 10 accession numbers in the set were requested. The sequence selected may be any portion of the set or the whole set. For example, if there were 57 accession numbers in the set we could request items 1-57 to be typed, or 13-29. The first and last number in the portion to be typed is all that must be given, and these must be in numeric order.

It is probably worth noting that when DIATOM creates sets it arranges all of the **DN** numbers in descending order; hence, the most recent entries in the data base are listed first.

The full sample search including a TYPE command appears below:

```
?S ALASKA; S MONTANA; C 1 OR 2
                      1     14    ALASKA
                      2      8    MONTANA
                      3     16    1OR2
?S COMMUNICATION (W) SATELLITES;C 3 AND 4
                      4     19    COMMUNICATION (W)SATELLITES
                      5      2    3AND4
?T5/2/2
5/2/2
DN0215  ED175444  IR
     The Use of Satellite Technolgy in Education: An Evaluation
Perspective.
     Fitzpatrick, Jody
     Apr 79.  31p.; Paper presented at the Annual Meeting of the American
Educational Research Association (San Francisco, California, April 1979);
Table 1 may not reproduce well because of small type size
     DOC TYPE: 150; 142
     This discussion of research and evaluation issues in the application
of satellite communications to education highlights the potential uses of
this technology for the educator and points out what educational
researchers and administrators can learn from past endeavors.  The major
projects known collectively as the Health/Education Telecommunications
Experiments (HET)--conducted as a joint venture of NASA and HEW--are
reviewed, including the Alaska education and health demonstrations, the
Appalachian Educational Satellite Project (AESP), the Rocky Mountain
Educational Project Satellite Technology Demonstration (STD), the Veteran's
Administration experiments, and the Washington-Alaska-Montana-Idaho (WAMI)
experiments.  The SITE experiment in India is briefly discussed as an
example of satellite communications in another country.  Conclusions from
ATS-6/HET experiments are related to future uses of telecommunications and
criteria for evaluating satellite technology in education are offered.
(RAO)
     DESCRIPTORS:*Communications Satellites; Educational Technology;
*Program Evaluation; Speeches; *Technology Transfer; *Telecommunications


?LOGOFF
                  08DEC81 08:27:15 USERCLAI
  $ .67   .045 HRS FILE1*
LOGOFF 8:27:23

End of SAIL execution
```

FIGURE 2.4: Sample Search

HINTS

BRIEFSEARCH

A useful practice in searching is to type out a small number of citations from a set of interest to see if in fact the records indicate the citations are on target or not. If not, then the search strategy can be altered.

CORRECTING ERRORS

There are three ways to correct errors on DIATOM:

1. Backspace (or CONTROL-H) to the error, correct it, and retype the rest of the line. Backspacing automatically deletes the portion of the line through which you have backspaced.
2. To interrupt execution of a command, press the **BREAK** key. The DEC-10 will print approximately 150 characters before it stops output.
3. **CONTROL-U** will erase the whole line and permit retyping it.

USING A CRT

When using a CRT terminal (like a television screen), the search strategy will disappear off the screen as you progress. To have your strategy printed on the screen again, type

DISPLAY SETS

or

DS

SUMMARY OF COMMANDS

Command	Function	Example
BEGIN n* B n	Begin a search in File n.	BEGIN 1
SELECT S	Create sets for specific terms.	SLIBRARY
COMBINE C	Create new sets from previously created sets through the use of the logical operators--AND, OR, NOT.	C1AND2 C3OR4 C5NOT6 C1-7/OR
TYPE T	Type records on the terminal. Set/format/range.	T10/2/1-5
LOGOFF	Sign off and leave the system.	LOGOFF
DISPLAY SETS DS	Print search strategy.	DS
Operator		
(W)	Request Term A immediately adjacent to Term B, and in this sequence.	SLIBRARY(W)BOOKS

* n refers to file number

EXERCISE 2

1. Conduct a search to find relevant citations in response to the following search request, and type out the full record(s):

   A study is being prepared on costs of renovations to libraries.

Steps:		
--	Sign on to the DEC-10 and DIATOM.	
--	Sign on to File 1.	*BEGIN1*
--	Select "libraries."	*S LIBRARIES*
--	Select "costs."	*S COSTS*
--	Select "renovations."	*S RENOVATIONS*
--	Combine the three sets with AND.	*C 1-3/AND*
--	Type out the full records.	*T4/5/1-2*

OR you could have been brave and entered it all on one line:

SCOSTS;SRENOVATIONS;SLIBRARIES;C1-3/AND

2. Conduct a second search to look for material on the following:

   Competency based education for school librarians and school media specialists.

Steps:		
--	To begin a new search type:	*BEGIN 1*
--	Select "competency based."	*SCOMPETENCY(W)BASED*
--	Select "school librarians."	*SSCHOOL(W)LIBRARIANS*
--	Select "media specialists."	*SMEDIA(W)SPECIALISTS*
--	Combine librarians or specialists.	*C2OR3*
--	Combine competency and lib/spec.	*C1AND4*
--	Type out titles and indexing.	*T5/8/1-2*

LOGOFF.

PART 3

Field Searching in Basic Index, Proximity Searching, Free Text Operators, Truncation

TURN ON TERMINAL → SIGN ON TO DEC-10 → SIGN ON TO DIATOM → **CONDUCT SEARCH** → SIGN OFF → TURN OFF TERMINAL (HANG UP PHONE)

1. Create sets for one-word terms by using **SELECT** or **S**.

2. Create sets for multi-word terms by using **(W)** between terms.

3. Create new sets from old sets by using **COMBINE** or **C** with **AND, OR, NOT.**

4. Stack command strings by using ; .

5. Type sets of interest by using **TYPE** or **T** in appropriate format:

e.g., T5/8/1-7

- Set number 5
- Format number:
  - 1 - Accession number only
  - 2 - Full record except abstract
  - 3 - Bibliographic citation
  - 4 - Title and abstract
  - 5 - Full record
  - 6 - Title
  - 7 - Bibliographic citation and abstract
  - 8 - Title and indexing
- First and last citations to be printed.

---

6. Search specific fields in Basic Index by using suffixes:

/DE /DE* /DF /DF* /ID /ID* /IF /IF* /AB /TI

7. Search for pairs of words within a certain proximity of each other by using **(nW)** between terms, where n is the number of intervening words.

8. Search for pairs of words anywhere in same citation by using **(C)** between the terms; anywhere in the same field by using **(F)** between the terms.

9. Search for truncated words and variant imbedded characters by using ? .

Up to this point you have signed on to DIATOM, conducted some searches using SELECT and COMBINE commands, and had the results typed out using the TYPE command.

It is necessary to identify just what the computer has been scanning in response to a SELECT command. The different parts of records, e.g., author, title, descriptors, abstracts, are separated from each other by the coding on the computer tapes. In computer terminology, they are said to occupy different "fields." Not all fields are searched automatically by the computer. Those which are searched automatically are collectively referred to as the "Basic Index." The fields which are included in the Basic Index are:

TI	Titles
DE	Descriptors
ID	Identifiers
AB	Abstracts

It should also be noted that so-called "stop words" such as articles, conjunctions, and prepositions are omitted, and therefore cannot be searched. In "the life of a computer" only "life" and "computer" may be searched.

SELECTing terms from the full range of the basic index is commonly referred to as "free text" or "full text" searching.

6. Searching Specific Fields in Basic Index

Often it is desirable not to search the entire Basic Index, but rather to search a particular field in the Basic Index. This is done through the use of a series of field "suffixes."

/DE - Descriptor
/DF - Full Descriptor
/ID - Identifier
/IF - Full Identifier
/AB - Abstract
/TI - Title

These suffixes are inserted immediately after the term that is to be SELECTed.

SALASKA/TI

In this case, the computer would search for records in which "Alaska" appears in the title field.

More than one field may be searched by including a series of field identifications separated by , after the / .

SALASKA/TI,ID,AB

Fields of Particular Interest--The Indexing Fields

Two fields which are of special interest in using ERIC are the Descriptor and Identifier fields. Because ERIC uses a controlled vocabulary, it is often desirable to search the descriptor field alone using terms from the Thesaurus of ERIC Descriptors.

SEVALUATION/**DE**

There is a special problem related to single-word descriptors, as the above example will indicate. The ERIC Thesaurus has not only a descriptor "Evaluation," but also a number of other descriptors in which the word "evaluation" appears, e.g., Program Evaluation, Formative Evaluation, etc. The command SEVALUATION/DE will scan the descriptor field and select all records in which "Evaluation" appears in the descriptor field, including those in which "evaluation" is part of a multi-word descriptor. There are cases in which the searcher wants only those documents indexed by the single word. Therefore, a second suffix is made available: **/DF**, standing for "full descriptor."

SEVALUATION/**DF**

In this instance, only the records in which the word "evaluation" was used by itself as a descriptor would be retrieved.

The same thing is true for the identifier field in which **/IF** will restrict searching for a single word to instances in which the word appears by itself as an identifier.

There is still another matter of concern related to descriptors and identifiers. ERIC categorizes certain descriptors and identifiers in each record as "major." (They represent the most important concepts in a document or journal article.) It is sometimes desirable to search for major descriptors and identifiers only. This can be done by typing * immediately after the suffix.

/DE* /DF* /ID* /IF*

SEVALUATION/DF* would retrieve records in which "evaluation" was used by itself as a major descriptor.

A case in point in which one might want to search for major descriptors involves terms like "Two Year Colleges" which are used to indicate the educational level of a document. A searcher who wants to retrieve citations of material about Two Year Colleges as subject matter probably wants to exclude documents for which "Two Year Colleges" is only a leveling term. In ERIC, leveling terms are always minor descriptors. Therefore, by searching

STWO YEAR COLLEGES/DE*

citations in which "Two Year Colleges" appears as a minor descriptor will be excluded.

It is possible to search for multi-word expressions in the descriptor field only without using (W). (You will notice that in the above example no (W)s were included between TWO and YEAR and COLLEGES.) As a matter of fact, if you SELECT a multi-word term and don't use any field suffix at all, the system will automatically search only the descriptor field. For example, SPROGRAM EVALUATION will search only the descriptor field.

7. Searching for Terms a Specified Distance Apart

We have seen already that it is possible to search for adjacent words by placing **(W)** between them in a SELECT command.

```
SCOMMUNICATIONS(W)SATELLITES
```

By inserting a number before the **W**, as in **(2W)**, it is possible to search for pairs of words separated by up to a specific number of other words. For example,

```
e.g.,    SGAMES(2W)PLAY
```

could retrieve records which contain the expression, "Games People Play" or "Games Mature People Play," among others.

Using **(nW)** between terms in a SELECT statement is called "proximity searching." **(W)** is really just a special case of proximity searching.

8. Introducing (C) and (F)

It is also possible to search for more than one term when the distance between terms doesn't matter. For example, so long as "evaluation" and "libraries" both appear somewhere in the same citation, that may be all that is required. To SELECT under this condition, **(C)** is inserted between the terms.

```
SEVALUATION(C)LIBRARIES
```

This example would SELECT any citations in which both "evaluation" and "libraries" appear in the same citation.

On other occasions, while the proximity of the words doesn't matter, it may be desirable that they do appear in the same field. In this case **(F)** is inserted between the terms.

SEVALUATION**(F)**LIBRARIES

In this instance citations will be SELECTed in which both "evaluation" and "libraries" appear in the same field--both in the title, both in the descriptor, both in the abstract, etc. Remember, it does not have to be the same field for all the citations. It may be both in the title in some citations, both in the descriptor field for others, and both in the abstract for still others.

As you may have noticed, the use of **(C)** and **(F)** is one way of combining SELECT and COMBINE commands into a single operation.

SEVALUATION**(C)**LIBRARIES is equivalent to
SEVALUATION
SLIBRARIES
C1AND2

SEVALUATION**(F)**LIBRARIES is equivalent to
SEVALUATION/TI;SLIBRARIES/TI
C1AND2
SEVALUATION/DE;SLIBRARIES/DE
C4AND5
SEVALUATION/AB;SLIBRARIES/AB
C7AND8
C3OR6OR9

. . . and a lot more.

9. Searching for Truncated Words and Variant Imbedded Characters

It is useful on occasion to have a single command SELECT a number of terms which are different words with the same stem. For example, teach, teacher, teachers, teaching all have the same stem, "teach." DIALOG makes it possible to search for all of these through "truncation." To truncate a word, type the stem that is to be searched followed immediately by a ? .

STEACH? will retrieve all of "teach,"
"teacher," "teachers," and "teaching."

A word of caution--this SELECT command will also retrieve any other words which begin with teach, such as "teachability" and "teachable." Therefore, truncate with discretion.

It is possible to limit the length of words retrieved by truncation by indicating the maximum number of letters beyond the stem that are acceptable. This is done by incuding as many ?s as there are acceptable letters beyond the stem, leaving a space, and typing another ? .

SLIBRAR??? ?

would retrieve "library," "libraries," "librarian," but not "librarians."

SCARD? ?

would retrieve "card," and "cards," but would not retrieve "cardiac."

"Variant embedded characters" is just another way of saying that two words may be spelled the same except for a letter or two, e.g., "marihuana" and "marijuana". Replacing the variant letters with a ? for each variant letter in a SELECT statement allows both forms of the word to be searched with one command.

SMARI?UANA

SUMMARY OF COMMANDS

Command	Function	Example
BEGIN n Bn	Begin a search in File n.	BEGIN 1 B1
SELECT S	Create sets for specific terms.	SLIBRARY SCOMPUTERS/DE
COMBINE C	Create new sets from previously created sets through the use of the logical operators--AND, OR, NOT.	C1AND2 C3OR4 C5NOT6 C2-6/OR
TYPE T	Type records on the terminal. Set/format/range.	T10/2/1-5
DISPLAY SETS DS	Print search strategy.	DS
LOGOFF	Sign off and leave the system.	LOGOFF

Operator		
(W)	Request Term A immediately adjacent to Term B, and in this sequence.	SLIBRARY(W)BOOKS SLIBRARY(W)BOOKS/TI
(nW)	Request Term A within n words of Term B, and in this sequence.	SLIBRARY(3W)BOOKS
(F)	Request Term A in the same field as Term B, in any order.	SLIBRARY(F)BOOKS
(C)	Request Term A in the same citation as Term B, in any order, and in any field.	SLIBRARY(C)BOOKS

Field Suffixes	
.../AB	Abstract
.../DE, .../DE*	Descriptors
.../DF, .../DF*	Full Descriptors (Single Word)
.../ID, .../ID*	Identifiers
.../IF, .../IF*	Full Identifiers (Single Word)
.../TI	Title

(*indicates MAJOR)

Truncation	
1. Unlimited number of characters after the stem.	SLIBRAR?
2. Specified maximum number of characters after stem.	SLIBRAR??? ?
3. Embedded variable character.	SWOM?N

EXERCISE 3

1. (a) Search for "retrieval" in title field. *SRETRIEVAL/TI*

   (b) Search for "retrieval" in descriptor field. *SRETRIEVAL/DE*

   (c) Search for "retrieval" in abstract field. *SRETRIEVAL/AB*

   (d) Combine these to find out how many times "retrieval" has been used in at least one of these fields. *C1-3/OR*

   How many? _____

   (e) Try searching for "retrieval" in title, descriptor, & abstract fields in one step. *SRETRIEVAL/TI,DE,AB*

   How many? _____

   (f) Search for "retrieval" free text. *SRETRIEVAL*

   How many? _____

2. Try different ways of retrieving material about "technology transfer," each requiring a single command.

   S TECHNOLOGY TRANSFER How many? _____

   S TECHNOLOGY(W)TRANSFER How many? _____

   S TECHNOLOGY(1W)TRANSFER How many? _____

   S TECHNOLOGY(F)TRANSFER How many? _____

   S TECHNOLOGY(C)TRANSFER How many? _____

   Can you explain the different results?

3. Run the "renovations search" from Exercise 2 again, this time using a single command.

SCOSTS(C)RENOVATIONS(C)LIBRARIES

Did you get the same result you did in Exercise 2?

4. Now try retrieving "librarian," "librarians," "libraries," and "library" in a single step.

SLIBRAR? How many? _____

Next search for the terms individually, and combine them such that all citations in which at least one of the terms appears will be retrieved.

SLIBRARIAN;SLIBRARIANS;SLIBRARIES;SLIBRARY; C1-4/OR

How many? _____

Notice that you did not get the same results. Find the citations which you retrieved with the truncation that you did not get in the combined set.

Hint: **C**truncated set**NOT**combined set

Finally, type out the titles and abstracts of this last set (Format 4) to see why you retrieved these citations using truncation.

5. Logoff.

EXERCISE 4

This exercise requires you to conduct a search on the following topic using the descriptor field only. Organize your sets (i.e., write out the search strategy) before you go online--consult the Thesaurus of ERIC Descriptors for appropriate descriptors.

> "Information is required on the use of computer simulations in classroom research, and on any computer models which exist for this purpose."

CONCEPT	DESCRIPTORS	
(Computer) Models (Computer) Simulations	(1) MODELS/DF (2) MATHEMATICAL MODELS (3) SIMULATION/DE	(4) OR
Computer Programs	(5) COMPUTER PROGRAMS (6) COMPUTERS/DE	(7) OR
		(8) AND
Classroom Research	(9) CLASSROOM RESEARCH	(10) AND

Now that the search strategy has been formulated, you are ready to go online and conduct the search.

-- Sign on to DEC-10 and DIATOM.

-- Sign on to File 1.

BEGIN 1

SMODELS/DF;SMATHEMATICAL MODELS;SSIMULATION;C1-3/OR

SCOMPUTER PROGRAMS;SCOMPUTERS/DE;C5OR6;C4AND7

SCLASSROOM RESEARCH;C8AND9

Type the full record of the citation contained in Set 10.

T10/5/1

-- Logoff.

EXERCISE 5

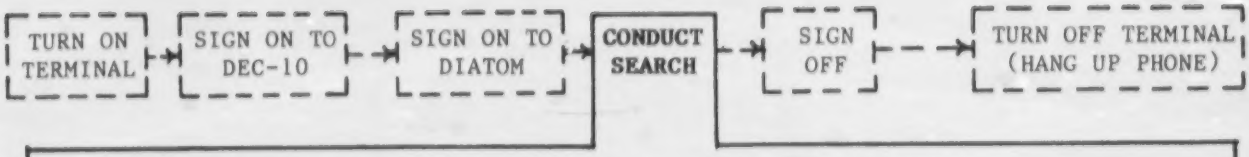
Now, follow similar procedures and formulate your own search strategy for the following search request using descriptors only. After you have developed the strategy, run your search on DIATOM File 1.

> A public library administrator is interested in locating studies which are concerned with the provision of library services to the elderly.

Feel free to check your strategy with another searcher before you run the search. Also, type out no more than five bibliographic citations. If you have more than five citations in your final set, type out only accession numbers (Format 1) for citations 6-n.

PART 4

Fields not in Basic Index, **LIMIT, EXPAND**



1. Create sets for one-word terms by using **SELECT** or **S**.

2. Create sets for multi-word terms by using **(W)** between terms.

3. Create new sets from old sets by using **COMBINE** or **C** with **AND, OR, NOT.**

4. Stack command strings by using ; .

5. Type sets of interest by using **TYPE** or **T** in appropriate format:

e.g., T5/8/1-7

- Set number 5
- Format number:
  - 1 - Accession number only
  - 2 - Full record except abstract
  - 3 - Bibliographic citation
  - 4 - Title and abstract
  - 5 - Full record
  - 6 - Title
  - 7 - Bibliographic citation and abstract
  - 8 - Title and indexing
- First and last citations to be printed.

---

6. Search specific fields in Basic Index by using suffixes:

   /DE /DE* /DF /DF* /ID /ID* /IF /IF* /AB /TI

7. Search for pairs of words within a certain proximity of each other by using **(nW)** between terms, where n is the number of intervening words.

8. Search for pairs of words anywhere in same citation by using **(C)** between the terms; anywhere in the same field by using **(F)** between the terms.

9. Search for truncated words and variant imbedded characters by using ?

---

10. Search specific fields <u>not</u> in Basic Index by using =.

    AU= CH= DT= JO=

11. Limit sets by using **LIMIT** or **L.**

12. Examine online thesaurus by using **EXPAND** or **E,** and **Double EXPAND** or **( ).**

Parts 1 to 3 have dealt with procedures for signing on and off DIATOM, and for conducting searches using SELECT, COMBINE, and TYPE commands. Procedures have been identified for searching the entire Basic Index, and for searching specific fields within the Basic Index. Proximity searching has been addressed, as have the means for selecting terms located anywhere in the same citation or in the same field. Instructions have also been given relative to searching for truncated words and variant imbedded characters. Part 4 will turn to the subject of searching fields which are not included in the Basic Index, will introduce another command, **LIMIT**, and will describe procedures for making use of an online thesaurus which is maintained on DIATOM.

10. Searching Fields That Are Not in the Basic Index

The very fact that certain fields are set apart as belonging to a "Basic Index" suggests that there must be fields that are not included in the Basic Index. This, of course, is true, and on DIALOG the fields which are not in the Basic Index include:

AU	Personal Author
CH	Clearinghouse Code (e.g., IR, TM)
CN	Contract or Grant Number
CP	Country of Publication
CS	Corporate Source
DT	Document Type
GL	Government Level
JA	Journal Announcement (Monthly issue of RIE or CIJE)
JN	Journal Name
LA	Language
PN	Project Number
PY	Year of Publication of Document/Article
RN	Report Number
SP	Sponsoring Agency

In order to SELECT from these fields, the SELECT command must be followed by the code for the field followed by = followed by the term to be SELECTed. For example,

S **JO**=LIBRARY TRENDS

On DIATOM only Author, Clearinghouse Code, Document Type and Journal Name can be searched in this way. Following are examples of the format for SELECTing from each of these fields.

S **AU**=WILLIAMS, J. or S **AU**=WILLIAMS, J? --truncated form allows searching for different ways author's name might be entered.

Space between comma and initial is mandatory.

S **CH**=TM

S **DT**=143

S **JO**=INSTRUCTIONAL SCIENCE

On DIALOG, however, all of the following can be used:

S AU=LANDERS, D?

S CH=IR

S CN=OE-0-73-7094

S CP=JAPAN

S CS=CORNELL

S DT=120

S GL=STATE

S JA=RIEAUG75

S JN=AAUP BULLETIN

S LA=FRENCH

S PN=L0008JA

S RN=T-75-196-G

S PY=1979

S SP=INST

Note: DIALOG uses **JN=** for Journal Name where DIATOM uses **JO=** .

11. Limiting Sets Using the **LIMIT** Command or **L**

Sometimes it is desirable to create a smaller set from a current one by placing certain restrictions on the current set. For example, SCOSTS; SLIBRARIES;C1AND2 might retrieve a Set 3 that is unmanageably large, and the searcher decides that s/he would like only the citations from Set 3 in which both COSTS and LIBRARIES appear as major descriptors. To do this, the **LIMIT** or **L** command is used.

LIMIT3/MAJ
or
L3/MAJ

The format of the **LIMIT** command is the command followed by the set number followed by a suffix identifying the limitations to be imposed.

Sets may also be limited to include either report literature from the RIE subfile or journal articles from the CIJE subfile. To limit to RIE, use **Ln/ED**; to limit to CIJE, use **Ln/EJ**.

LIMIT can be used more extensively on DIALOG. See Appendix B.

12. Examining the Online Dictionary through **EXPAND** or **E**

DIATOM maintains an online thesaurus of the terms in the data base. It is useful sometimes to examine the terms which appear alphabetically adjacent to a term of interest. The online thesaurus may be examined through the use of the **EXPAND** or **E** command.

Suppose one wanted to examine the words alphabetically adjacent to the term "Visual Discrimination." One would type the command,

E VISUAL DISCRIMINATION

DIATOM's response to the command would be the following:

```
REF   INDEX-TERM                TYPE ITEMS  RT
E1    VISUALS-------------------------    4
E2    VISUAL ACUITY-------------------    4   ?
E3    VISUAL AIDS---------------------   15   ?
E4    VISUAL APTITUDE-----------------    1
E5    VISUAL ARTS---------------------   15   ?
E6   -VISUAL DISCRIMINATION----------   15
E7    VISUAL EFFICIENCY SCALE--------    1
E8    VISUAL ENVIRONMENT--------------    4   ?
E9    VISUAL IMPAIRMENTS--------------  113   ?
E10   VISUAL LEARNING-----------------   31   ?
E11   VISUAL LITERACY-----------------   10   ?
E12   VISUAL MEASURES-----------------   18   ?
E13   VISUAL PERCEPTION---------------   47   ?
E14   VISUAL STIMULI-----------------   41   ?
E15   VITAES--------------------------    1   ?
E16   VITAL---------------------------   16
E17   VITAMIN-------------------------    1
                                      -MORE-
?
```

Let's examine this response. Obviously occupying most of the space is a series of terms listed alphabetically. In front of "Visual Discrimination," the term entered in the command, is a hyphen. This serves as a reminder of which term in the list is being **EXPAND**ed. To the left of the terms is a list of identification numbers for each term listed. To the right is a column labelled "Items" which lists opposite each term the number of citations in the Basic Index that contain that term. Finally, there is a column labelled **RT.** If a term in the list appears in the Thesaurus of ERIC Descriptors and has a Broader, Narrower or Related Term, a ? appears in the column labelled **RT.**

At the bottom left of the display the computer prints **-MORE-.** If a second list is desired beginning immediately following the last of the former list, type

P

or

PAGE

in response to the prompt.

It is possible to SELECT directly from the display of an EXPAND command. This is done through the use of the identification numbers opposite the terms in the display that are to be SELECTed. If one wished to SELECT "Visual Acuity," "Visual Aptitude" and "Visual Discrimination" through "Visual Stimuli" from the display in the example above, one would enter the following SELECT command:

SE2,E4,E6-E14

This SELECT command with the parts separated by commas will retrieve citations containing at least one of the terms referenced and store them in a single set. To get separate set numbers for a series of terms, it is necessary to enter a separate SELECT command for each.

SE1;SE3;SE5

Double Expand

We have not exhausted the possibilities of the EXPAND command. It was observed that the display resulting from an EXPAND command notes the existence of a thesaural display for ERIC descriptors. One can have that thesaural display printed through the use of the **Double** EXPAND. To **Double EXPAND** a term,the term to be **Double EXPAND**ed is enclosed in parentheses. For example,

E(VISUAL DISCRIMINATION)

This would result in the following display:

REF	INDEX-TERM	TYPE	ITEMS	RT
R1	VISUAL DISCRIMINATION------	M		11
R2	VISUAL PERCEPTION----------	B		20
R3	CONTRAST------------------	R		6
R4	DISCRIMINATION LEARNING----	R		7
R5	SENSORY TRAINING----------	R		12
R6	VISION--------------------	R		
R7	VISION TESTS--------------	R		
R8	VISUAL ACUITY-------------	R		13
R9	VISUAL ENVIRONMENT--------	R		11
R10	VISUAL LEARNING-----------	R		15
R11	VISUAL LITERACY-----------	R		16
R12	VISUAL STIMULI------------	R		15

This display is very similar to the first one with a couple of exceptions. First of all, the identification numbers begin with **R** rather than **E**. Second, a column called **Type** appears to the right of the list of terms. The letters which can appear in this column are **B, N,** and **R**. These indicate the relationships to the first term (**M**) in the list of the terms which follow--**B**roader Term, **N**arrower Term, and **R**elated Term.

As before, sets may be created by SELECTing directly from the display. For example,

SR1, R6-R8

EXPANDing Terms NOT in Basic Index

The EXPAND command can be used to display terms in fields other than those of the Basic Index. In this case, the form of the command is similar to that for SELECTing from these fields. The field identification form followed by = is included between the EXPAND command and the term. An example of a term being EXPANDed in the Author Field is:

E **AU**=JONES, KEITH

This would result in the following display:

REF	INDEX-TERM	TYPE	ITEMS	RT
E1	AU=JONES, ERNEST L.--------		1	
E2	AU=JONES, GREGORY V.-------		1	
E3	AU=JONES, J. L.------------		1	
E4	AU=JONES, K. P.------------		1	
E5	-AU=JONES, K. SPARCK--------		1	
E6	AU=JONES, KEITH------------		1	
E7	AU=JONES, KEVIN P.---------		1	
E8	AU=JONES, LARRY A.---------		1	
E9	AU=JONES, LINDA L.---------		1	
E10	AU=JONES, MALCOLM----------		1	
E11	AU=JONES, MARY ELLEN-------		1	
E12	AU=JONES, NEVILLE----------		1	
E13	AU=JONES, NORMA WALL-------		1	
E14	AU=JONES, RAY--------------		1	
E15	AU=JONES, RAYMOND----------		1	
E16	AU=JONES, RICHARD M.-------		1	

-MORE-

SUMMARY OF COMMANDS

Command	Function	Example
BEGIN n Bn	Begin a search in File n.	BEGIN 1 B1
SELECT S	Create sets for specific terms.	SLIBRARY SCOMPUTERS/DE SAU=JONES, W? SE1-E4
COMBINE C	Create new sets from previously created sets through the use of the logical operators--AND, OR, NOT.	C1AND2 C3OR4 C5NOT6 C2-6/OR
EXPAND E	To display a part of an index. May be used with words, prefix codes, or online thesaurus.	ELIBRARY EAU=JONES E(LIBRARY)
LIMIT L	Restrict a SELECTed set to specified requirements.	L4/MAJ
TYPE T	Type records on the terminal. Set/format/range.	T10/2/1-5
DISPLAY SETS DS	Print search strategy.	DS
LOGOFF	Sign off and leave the system.	LOGOFF

Operator		
(W)	Request Term A immediately adjacent to Term B, and in this sequence.	SLIBRARY(W)BOOKS SLIBRARY(W)BOOKS/TI
(nW)	Request Term A within n words of Term B, and in this sequence.	SLIBRARY(3W)BOOKS
(F)	Request Term A in the same field as Term B, in any order.	SLIBRARY(F)BOOKS
(C)	Request Term A in the same citation as Term B, in any order, and in any field.	SLIBRARY(C)BOOKS

Field Suffixes		
.../AB	Abstract	SCOMPUTERS/AB
.../DE, .../DE*	Descriptors	
.../DF, .../DF*	Full Descriptors (Single Word)	
.../ID, .../ID*		
.../IF, .../IF*	Full Identifiers (Single Word)	
.../TI	Title	

(*indicates MAJOR)

Field Prefixes	
AU=	Author
CH=	Clearinghouse Code
DT=	Document Type
JO=	Journal Name

Truncation	
1. Unlimited number of characters after the stem.	SLIBRAR?
2. Specified maximum number of characters after stem.	SLIBRAR??? ?
3. Embedded variable character.	SWOM?N

EXERCISE 6

1. Find Documents by Elaine Caruso which discuss intructional materials for online systems. Type out the bibliographic information for the relevant citations.

SINSTRUCTIONAL(W)MATERIALS;SONLINE(W)SYSTEMS;C1AND2
SAU=CARUSO, E?;C3AND4
T5/3/1-2

2. Suppose you SELECTed communications satellites and afterward decided that you wanted it as a major descriptor only. Type out the accession numbers for the set that would remain.

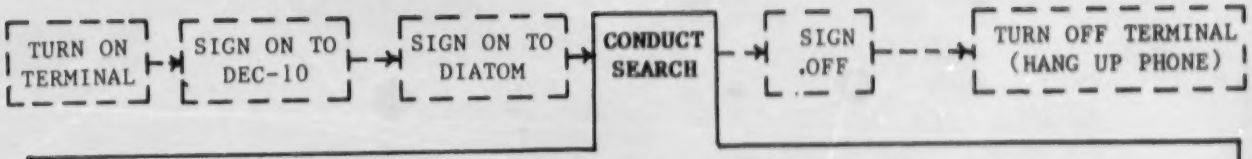
SCOMMUNICATIONS(W)SATELLITES
Ln/MAJ
Tn/1/1-n

3. Find items in the data base in which "archives" is an important concept.

E ARCHIVES
SE3-E7
Ln/MAJ

PART 5

SuperSELECT



1. Create sets for one-word terms by using **SELECT** or **S**.

2. Create sets for multi-word terms by using **(W)** between terms.

3. Create new sets from old sets by using **COMBINE** or **C** with **AND, OR, NOT.**

4. Stack command strings by using ; .

5. Type sets of interest by using **TYPE** or **T** in appropriate format:

   e.g., T5/8/1-7

   First and last citations to be printed.

   Format number:
   1 - Accession number only
   2 - Full record except abstract
   3 - Bibliographic citation
   4 - Title and abstract
   5 - Full record
   6 - Title
   7 - Bibliographic citation and abstract
   8 - Title and indexing

   Set number 5

- -

6. Search specific fields in Basic Index by using suffixes:

   /DE /DE* /DF /DF* /ID /ID* /IF /IF* /AB /TI

7. Search for pairs of words within a certain proximity of each other by using **(nW)** between terms, where n is the number of intervening words.

8. Search for pairs of words anywhere in same citation by using **(C)** between the terms; anywhere in the same field by using **(F)** between the terms.

9. Search for truncated words and variant imbedded characters by using **?** .

- -

10. Search specific fields not in Basic Index by using = .
    AU= CH= DT= JO=

11. Limit sets by using **LIMIT** or **L.**

12. Examine online thesaurus by using **EXPAND** or **E**, and **Double-EXPAND** or **( ).**

- -

13. Merge SELECT and COMBINE functions by using **SuperSELECT.**

13. Merging SELECT and COMBINE Functions with SuperSELECT

Stacking commands so that a series of commands are issued in a single line permits the computer to execute a series of SELECT and COMBINE commands without having to communicate with the searcher between commands. Another method for reducing the number of communications between searcher and computer is **SuperSELECT.** **SuperSELECT** is a means by which both SELECT and COMBINE functions are included in a SELECT command. This is done by including the logical operators, **AND, OR,** or **NOT** within the body of a SELECT command. For example,

```
SALASKA OR MONTANA
```

would return the following response:

```
          14      ALASKA
           8      MONTANA
1         16      ALASKA OR MONTANA
```

We could further SELECT "communications satellites" and combine this set with Set 1 in a single command:

```
SCOMMUNICATIONS(W)SATELLITES AND S1
```

Notice this time that Set 1 is identified by number, but the fact that it is a set number is denoted by the letter **S.** The **S** notation is mandatory for set identification in a SuperSELECT command.

You will notice that the computer did not return set numbers for Alaska and Montana individually. If set numbers are desired for each component of a SuperSELECT command, the command must be entered as **S STEPS** or **SS**. For example,

S STEPS ALASKA OR MONTANA

SS ALASKA OR MONTANA

would return the response:

1	14	ALASKA
2	8	MONTANA
3	16	ALASKA OR MONTANA

It is possible to include more than one logical operator in a SuperSELECT command. In this case, parentheses should be included around the portions which are to be searched first. This is usually critical when both **AND** and **OR** appear in a SuperSELECT command. The sample search could have been entered as a single command.

S(ALASKA OR MONTANA) AND COMMUNICATIONS(W)SATELLITES

As with SELECT, with SuperSELECT it is possible to:

(a) use truncated words, e.g., SLIBRAR? AND EDUCATION
(b) use terms not in basic index, e.g., SAU=WOLVEK, J? AND BUTTERFLIES
(c) use items from EXPAND display, e.g., SE3-E7 AND S5

EXERCISE 7

1. Use SuperSELECT to conduct a search for material on:

   Speech therapy for mentally retarded, cerebral palsied, and autistic children.

   SMENTAL RETARDATION OR CEREBRAL PALSY OR AUTISM
   SSPEECH AND (PATHOLOG? OR THERAP?) AND S1
   T2/7/1-n

2. Begin a new search. Use SuperSELECT to find documents by John Feldhusen which relate to career education for gifted children. Create separate sets for each term. Type out full records.

   SS(AU=FELDHUSEN, J?) AND GIFTED
   SS(CAREER EDUCATION OR CAREER AWARENESS OR CAREER EXPLORATION) AND S3
   T7/5/1-n

SUMMARY OF COMMANDS

Command	Function	Example
BEGIN n Bn	Begin a search in File n.	BEGIN 1 B1
SELECT S	Create sets for specific terms.	SLIBRARY SCOMPUTERS/DE SAU=JONES, W? SE1-E4
COMBINE C	Create new sets from previously created sets through the use of the logical operators--AND, OR, NOT.	C1AND2 C3OR4 C5NOT6 C2-6/OR
EXPAND E	To display a part of an index. May be used with words, prefix codes, or online thesaurus.	ELIBRARY EAU=JONES E(LIBRARY)
LIMIT L	Restrict a SELECTed set to specified requirements.	L4/MAJ
TYPE T	Type records on the terminal. Set/format/range.	T10/2/1-5
DISPLAY SETS DS	Print search strategy.	DS
LOGOFF	Sign off and leave the system.	LOGOFF

SuperSELECT

S	Include Boolean operators in SELECT command--returns one set number.	SCOMPUTERS AND LIBRARIES SCOMPUTERS OR S3
S STEPS SS	Return separate sets for each component in SuperSELECT.	S STEPS COMPUTERS AND LIBRARIES SS COMPUTERS AND S3

Operator

(W)	Request Term A immediately adjacent to Term B, and in this sequence.	SLIBRARY(W)BOOKS SLIBRARY(W)BOOKS/TI
(nW)	Request Term A within n words of Term B, and in this sequence.	SLIBRARY(3W)BOOKS
(F)	Request Term A in the same field as Term B, in any order.	SLIBRARY(F)BOOKS
(C)	Request Term A in the same citation as Term B, in any order, and in any field.	SLIBRARY(C)BOOKS

Field Suffixes

.../AB	Abstract	SCOMPUTERS/AB
.../DE, .../DE*	Descriptors	
.../DF, .../DF*	Full Descriptors (Single Word)	
.../ID, .../IF*	Full Identifiers (Single Word)	
.../TI	Title	

(*indicates MAJOR)

Field Prefixes

AU=	Author
CH=	Clearinghouse Code
DT=	Document Type
JO=	Journal Name

Truncation

1. Unlimited number of characters after the stem.	SLIBRAR?
2. Specified maximum number of characters after stem.	SLIBRAR??? ?
3. Embedded variable character.	SWOM?N

JUST FOR THE FUN OF IT . . .

Try the following searches:

1. You have been asked to locate documents which discuss financial aid to private schools. Your user is specifically not interested in parochial schools. (NOTE: Be careful not to eliminate documents which discuss both sectarian and non-sectarian schools.)

2. A sixth grade teacher has asked you to locate documents which describe existing elementary and secondary education level programs intended to introduce children to environment-related subject matter.

3. There is a journal article by Richard DeGennaro which discusses the role of the government in library resource networking. Locate this record. Now find additional journal articles which treat this topic.

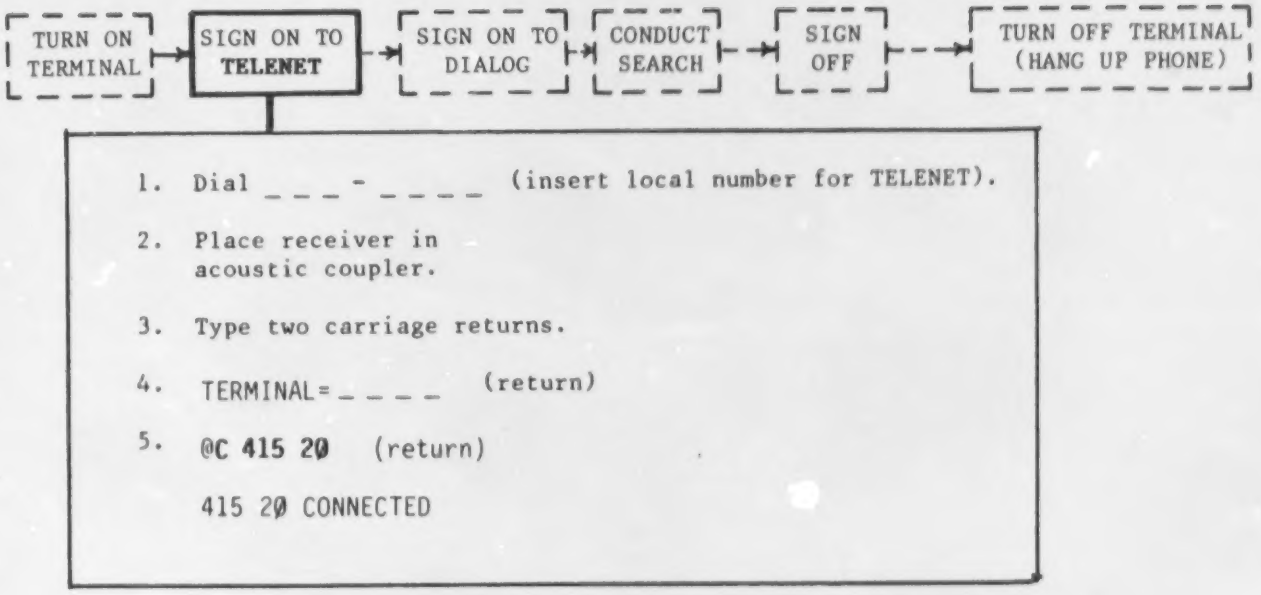
4. Locate a master's thesis which is an annotated bibliography on the subject of library services to the handicapped.

5. Find a conference paper which contains statistical information on the relationship between changes in the cost of living and salaries in metropolitan school districts.

6. Locate an article published in a Canadian journal which is concerned with attitudes toward collective bargaining in education.

APPENDIX A

Procedures for Using **TELENET** and **TYMNET**


TURN ON TERMINAL
SIGN ON TO TELENET
SIGN ON TO DIALOG
CONDUCT SEARCH
SIGN OFF
TURN OFF TERMINAL (HANG UP PHONE)
1. Dial _ _ _ - _ _ _ _ (insert local number for TELENET).
2. Place receiver in acoustic coupler.
3. Type two carriage returns.
4. TERMINAL= _ _ _ _ (return)
5. @C 415 2Ø (return)
415 2Ø CONNECTED

Connect to TELENET

Having turned on the terminal as directed in Part 1, the next step is to connect to TELENET.

1. Dial _ _ _ - _ _ _ _ (after dialing 9 to get an outside line, if necessary).

   After the phone rings, you should hear a high-pitched "tone" on the line. That's TELENET. (If someone picks up the receiver and says, "Hello," apologize for dialing a wrong number, hang up, and try again.)

2. Insert the telephone handset into the acoustic coupler. The acoustic coupler is either a part of the terminal or a device connected to the terminal which is designed to hold the telephone handset. Be sure the "cord end" of the handset points in the direction indicated in the instructions for the terminal.

3. Press RETURN twice. This indicates to TELENET that you wish to use the service.

4. TELENET will respond and ask for the terminal identification number. In response to the query, type:

_ _ _ _ , and press RETURN

This tells TELENET a number of things it needs to know.

5. TELENET then asks what database vendor is required. (TELENET can connect the user with a number of them.) DIALOG's identification number is 415 20, so in response to @, type:

C 415 20, and press RETURN

TELENET is sensitive to spacing after the C command. The command to connect to DIALOG following the @ must be entered C 415 20 or C 41520.

If TELENET is unhappy with an entry, it will type a ? rather than the usual response. If this happens, check what you previously entered for errors and try again.

As soon as you are connected, TELENET will respond with:

415 20 CONNECTED

You are ready to communicate with DIALOG by using any of the search strategies explained in Parts 2-5 of this Handbook. When you are finished, and have logged off DIALOG, TELENET will ask if you wish to be connected to any other vendors. Just hang up the phone.

```
TELENET 315 19F
TERMINAL=CD12
@C 415 20

415 20 CONNECTED
```

Sample Printout Showing Connection to TELENET.

1. Dial _ _ _ - _ _ _ _ (insert your local number for TYMNET).

2. Insert handset in acoustic coupler.

3. TYMNET will print (very slowly):

   PLEASE TYPE YOUR TERMINAL IDENTIFIER

   and pause.

4. Type: _____ (your terminal identifier for TYMNET) It will not print.

5. TYMNET will respond:

   -1015-02--
   PLEASE LOG IN:

   and pause.

6. Type: **LRS**

7. TYMNET will respond:

   PASSWORD:

   and pause.

8. Type: **DIALOG** (It will not print.)

9. TYMNET will respond:

   TC HOST IS ONLINE

The next communication will be with DIALOG.

```
PLEASE TYPE YOUR TERMINAL IDENTIFIER
-1015-02--
PLEASE LOG IN: LRS
PASSWORD:
TC HOST IS ONLINE
```

Sample Printout Showing Connection to TYMNET.

Appendix B

LIMIT Command on DIALOG

On DIALOG sets may be LIMITed by year through the use of the range of ED and EJ accession numbers associated with a particular year or years. For example, the range of ED numbers of 1977 is 127414-142684 and the range of EJ numbers for 1977 is 142253-163351. To Limit Set 7 to both ED and EJ numbers for 1977, the following would be entered:

L7/127414-142684/ED/142253-163351/EJ

It is evident from the above example that it is possible to include more than one suffix following a LIMIT command. It should be noted, however, that when limiting to years the range of accession numbers must precede the associated ED or EJ suffix.

	ED	EJ
1970	031605-242060	011708-027599
1971	042061-054390	027600-045271
1972	054391-066620	045272-062751
1973	066621-080787	062752-082164
1974	080788-095253	082165-101872
1975	095254-110594	101873-121926
1976	110595-127413	121927-142252
1977	127414-142684	142253-163351
1978	142685-157987	163352-186217
1979	157988-174743	186218-207484
1980	174744-190736	207485-229235
1981	190737-205670	229236-250663
1982	205671-	250664-

There is another useful application of the LIMIT command in searching ERIC on DIALOG. Sets of ED numbers may be LIMITed to those citations for which the documents are available on microfiche from the ERIC Document Reproduction Service. For this purpose the command appears as follows:

L6/**AVAIL**

INDEX

-A-

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    See Logical Operators

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